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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,823	04/30/2001	Ted E. Dunning	22227-04647	5884

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EXAMINER
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RETTA, YEHDEGA

ART UNIT	PAPER NUMBER
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3622

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/846,823

**Applicant(s)**

DUNNING ET AL.

**Examiner**

Yehdega Retta

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 4/21/05.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-97 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-97 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### Response to Amendment

This office action is in response to Applicant's request for continued examination (RCE) filed April 21, 2004. Applicant amended claims 1, 34, 39, 59 and 93. Claims 1-97 are currently pending.

### Claim Rejections - 35 USC § 112

Claim 1-33, 59-97 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended claims recite generating user log scores based exclusively on the detected implicit user behavior. However applicant's specification discloses recommendation made based on implicit and explicit data.

Claims 1-33 and 59-97 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. A method or system of generating user log scores based exclusively on the detected implicit user behavior was not described in the specification. Applicant's specification discloses recommendation made based on implicit and explicit data.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-27, 32, 33, 39, 42-59, 62-85, 91 and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosken U.S. Patent No. 6,438,579.

Regarding claim 1, Hosken teaches accepting item selection detected from a plurality of users, the item selection detections being based upon the detection of implicit user behavior generating log containing identifiers for user's detected time selection, each of said user logs being populated as a result of the accepted of the detected item selection; accepting query; scoring user logs, responsive to a degree of occurrence to the query item; determining at least one result item in a subset of scored user logs (see abstract, col. 2 line 52 to col. 3 line 34, col. 5 line 8 to col. 6 line 38 and col. 9 lines 23-65). Hosken discloses that the user may explicitly enter music items and ratings or the system may derive implicit ratings of music items based on system-based observations of user actions and the system making recommendation based on the input (see col. 14 lines 13-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement selected features of Hosken. Omitting Hosken's collection of explicit user profile, by interviewing or surveying users, would cost less to operate the system. Also it would have been obvious to one of ordinary skill in the art to provide recommendation from implicit user profile only to those who are not willing to participate in the interview or survey of Hosken. It is also well settled that the elimination of an

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element or its functions is an obvious expedient if the remaining elements perform the same functions as before - *In re Karlson*, 136 USPQ 184, 186; 311 F2d 581 (CCPA 1963).

Regarding claims 4-11, Hosken teaches video track or music track, generating track list containing an identifier for each determined result. Hosken teaches recommending music and video and other media content items based on similarity in profile between the user and other users (see abstract and col. 11 line 1 to col. 13 line 30 and col. 14 line 40 to col. 16 line 21).

Regarding claims 12 and 13, Hosken teaches accepting selection; input specifying an item purchase by user, provided via web page (see col. 3 lines 17-34, col. 4 lines 11-55, col. 5 lines 20-62).

Regarding claim 14, Hosken teaches defining a subset of the scored user logs (see col. 15 line 10 to col. 16 line 21).

Regarding claims 15-27, Hosken teaches monitoring user behavior and adjusting the user log ... outputting advertisement ... (see col. 5 line 20 to col. 6 line 67 and col. 8 line 38 to col. 11 line 19).

Regarding claims 32 and 33, Hosken teaches deleting item selected by user from the determining at least one result, ranking the result responsive to the degree of significance (see col. 16 lines 24-53).

Claims 39 and 59 are rejected as stated above in claim 1.

Claims 42-45 and 62-69 are rejected as stated above in claims 4-11.

Claims 70 and 71 are rejected as stated above in claims 12 and 13.

Claim 72 is rejected as stated above in claim 14.

Claims 46-58 and 73-85 are rejected as stated above in claims 15-27.

Claims 91 and 92 are rejected as stated above in claims 32 and 33.

Claims 2, 3, 28-31, 34-38, 40, 41, 60, 61, 86-90, 93-97 are rejected under 35

U.S.C. 103(a) as being unpatentable over Hosken U.S. Patent No. 6,438,579 further in view of Lazarus U.S. Patent No. 6,430,539.

Regarding claims 2, 3, 40, 41, 60, 61 and 86 Hosken does not explicitly teach significance of occurrence being determined by a log of likelihood ratio analysis or a substantial equivalent of a log of likelihood ratio analysis, it is taught by Lazarus (see col. 22 line 19 to col. 25 line 53). Lazarus teaches use a log of likelihood ratio or an equivalent analysis to determine significance of occurrence (see abstract, col. 4 lines 24-67 and col. 39 lines 13-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38).

Regarding claims 28-31, 34-38, 87-90, 93-97, Hosken teaches determining a total number of users, each group containing information detected from implicit use behavior, (see fig. 2 (70, 68, 64)); determining a subset of user, determining the items selected or not selected by the subsets and use of correlation algorithm to determine the correlation between the cluster and the user (see col. 15 line 10 to col. 16 line 21). However Hosken failed to explicitly teach the correlation algorithm as a log likelihood ratio, it is disclosed in Lazarus (see abstract, col. 4 lines

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24-67 and col. 39 lines 13-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38). Hosken discloses that the user may explicitly enter music items and ratings or the system may derive implicit ratings of music items based on system-based observations of user actions and the system making recommendation based on the input (see col. 14 lines 13-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement selected features of Hosken. Omitting Hosken's collection of explicit user profile, by interviewing or surveying users, would cost less to operate the system. Also it would have been obvious to one of ordinary skill in the art to provide recommendation from implicit user profile only to those who are not willing to participate in the interview or survey of Hosken.

### ***Response to Arguments***

Applicant's arguments filed May 4, 2004 have been fully considered but they are not persuasive.

As stated in the previous office action, Hosken teaches collecting implicit as well as explicit information of users. Hosken also teaches sparse matrix of interrelated characterizing attributes derived from explicit, implicit and other direct rating information source 100 (explicit rating information source), 102 (implicit rating information sources) and 104 (other rating information sources). In response to user request action (identifying a media content item or

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other requests) the referral system produces a recommendation set. ... In similar manner, an empirical normalization is applied by the final weighing filter relative to the weightings received from the collected group behaviors and the expert weighting filter. Thus normalized, traversals that complete may then be ranked and sorted based on whatever criteria selected by user....

Hosken further states user would be able to provide feedback to the system regarding the recommendations indicating the degree to which the user liked the recommended item (see col. 11 lines 20 col. 12 line 9). Hosken discloses that the **user may explicitly enter music items and ratings or** the system may derive implicit ratings of music items based on system-based observations of user actions and the system making recommendation based on the input (see col. 14 lines 13-20). Hosken filtering and weighting method provides scoring and determining a result, based on the number of times an item appears, i.e., an item with higher weight factor (see also fig. 7A –7C).

Also it is well settled that the elimination of an element or its functions is an obvious expedient if the remaining elements perform the same functions as before - *In re Karlson*, 136 USPQ 184, 186; 311 F2d 581 (CCPA 1963).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yehdega Retta whose telephone number is (703) 305-0436. The examiner can normally be reached on 8-4:30.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Stamber can be reached on (703) 305-8469. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Yehdega Retta  
Primary Examiner  
Art Unit 3622

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